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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,943	12/29/2003	Neil Keegstra	1122-8	7887
23869	7590	11/28/2006	EXAMINER	
HOFFMANN & BARON, LLP 6900 JERICHO TURNPIKE SYOSSET, NY 11791			CARONE, MICHAEL J	
			ART UNIT	PAPER NUMBER
			3641	

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/748,943

Applicant(s)

KEEGSTRA ET AL.

Examiner

Michael Carone

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-7,9,11 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-7, 9 and 11-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

Claims 1, 3-6 are objected to because of the following informalities: In claim 1, the phrase "thereby increasing the weight of the body and said forward end" is inconsistent with the specification. It appears that the claim should read -- thereby increasing the weight of the body at said forward end--. Appropriate correction is required.

The claim listing is improper. Claims 2, 8 and 10, which have been cancelled, should not include any text. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

Claims 1, 2-7, 8, 10 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, the phrase "extended range" is indefinite as to what the range is extended from. Applicant argues that the references do not show extended range projectiles. However, the specification implies that the bore in the rear of the projectile in combination with a protruding projection give this projectile an extended range. Since these elements are already found in claim 1 and the fact that applicant may be arguing this feature, it is unclear what else about the projectile gives it an extended range or what the projectile's range is extended from.

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With respect to claims 1 and 7, the phrase "having a durometer hardness less than metallic rounds" is indefinite. It is assumed that some metal rounds, such as lead have a durometer/shore hardness less than 90. Therefore, it is unclear how the durometer hardness can be less than "all" metallic rounds.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 3, 5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Lyon 6,041,712.

Lyon discloses an "extended range" non-lethal projectile comprising a protruding convex portion 5, and a cylindrical bore (the space circumscribed by the area of the projectile base 4). The body is formed from a non-metallic material (plastic and foam rubber) that inherently (same material as claimed by applicant) has a durometer hardness less than metallic rounds. The convex portion clearly adds forward weight to the round as it existed prior to the convex portion being added. Note that nothing in the claim limits the projectile to be made of a single material. The projectile has the same structure, i.e., the cylindrical bore, of applicants that produces an "extended range".

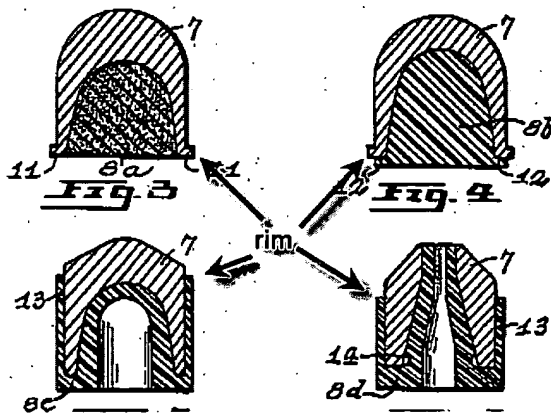
2. Claims 1, 3, 5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Steer 5,343,850.

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The projectile 50 of Steer reads on the claims in a manner similar to Lyon, discussed above. Note that at tail portion is not excluded by the claims. Although the projectile might have a center of mass that is rearward of the center of gravity, the domed portion still adds weight to the forward end, as compared to a forward end without the domed portion.

3. Claims 1 and 3 - 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanner et al 3,058,420.

Tanner et al disclose a projectile 7 comprising a domed portion and a rim surrounding the domed portion as shown below. The projectile body is made of a non-metallic material (8a, 8b, 8c, or 8d). It is realized that the projectile is formed of a non-metallic material 8 (and a metallic portion.7). However, the claim as written does not preclude part of the projectile being made of a metallic portion.



**Claim Rejections - 35 USC § 103**

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 7, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi (US 4043267), and further in view of Amick (US 3527880).

Hayashi teaches a munition comprising: a hull (25), a wad (figure 7a), a projectile slug having a cylindrical body (figure 7b), forward end including a protruding convex member, increasing weight forward, including a hollow cylindrical bore (27') extending from rearward end wherein the cylindrical body (27) is solid to forward end. Hayashi doesn't teach wherein the projectile is a hardness less than metallic rounds. Amick and Hayashi are in the same field of invention, being ammunition design, and Amick teaches that it is well known in the art to select a material for the projectile with a hardness less than metal (rubber) when desired to create a non-lethal projectile so that the projectile may deform on impact and thereby distribute the kinetic energy without penetration (Amick, col 3 line 62). It would have been obvious at the time the invention was made to construct the slug of Hayashi from rubber as taught by Amick for the purpose of providing a non-lethal projectile.

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With respect to claims 11 and 12, the body is formed of rubber or a durometer hardness of 20 to 90, see above with respect to Amick which teaches using rubber or soft material for non-lethal applications.

2. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi in view of Amick as applied to claim 7 above, and further in view of Gibson (US 6615739). The Hayashi/Amick combination teaches the invention as described above with respect to claim 7 but doesn't mention dimples on the surface of the slug. Hayashi and Gibson are in the same field of endeavor, projectiles and cartridge shells, and Gibson teaches putting dimples on the surface of the projectile (fig 8) the motivation for doing so to increase projectile accuracy and distance (col 17, lines 1-5). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to include dimples on the surface of a projectile taught by the Hayashi/Amick combination to increase accuracy, distance or both.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1 and 3-6 have been considered but are moot in view of the new ground(s) of rejection. Here it is noted that element 27, alone, may be considered the projectile slug, however given the fact that both the element 27 as well as the wad fly together, they are both considered the "projectile".

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However, in an effort to advance prosecution of the application, new rejections have been set forth.

With respect to applicants argument of claim 7 and the projectile, it is noted that the claim includes both the wad and a projectile slug as separate elements. In that a projectile slug is considered only part of the flying "projectile", Hayashi still applies as it shows a two part projectile comprising a projectile slug and a wad.

With respect to the functional differences argued between the invention and that of Hayashi neither the function nor structure that excludes any part of Hayashi has been claimed and therefore the arguments are moot. With respect to applicants arguments that a projectile made of rubber would not sustain an acceptable aerodynamic shape is not well taken. Amick does not describe the projectile made of rubber losing its aerodynamic shape during flight and it reasonable to assume that rubber would maintain its shape. Therefore applicant must submit evidence to the contrary to support this argument. Furthermore, nothing in the claims exclude the projectile from deforming upon impact.

With respect to Gibson, applicant alleges that dimples "will permit improved rupture of paintballs and possibly enhance their accuracy". However, this is contrary to the teachings of Gibson as cited by the examiner.

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An eighth embodiment 800 of the present invention is seen in FIG. 8c. The eighth embodiment is identical to that seen in FIG. 2a except that the projectile comprises a plurality of dimples 601. The plurality of dimples promotes projectile accuracy, distance, or both.

217 (1987 J.A.C.S., 9: supra), by (1984)), to Lett., 12

Thus, applicants arguments do not apply.

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Three different 102(b) rejections have been applied to claims 1 and 2-6 in an effort to advance prosecution.

***Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

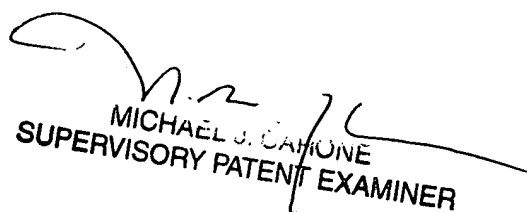
Widener, 6,782,828 show a projectile which made from a non-metallic material which *may* include metallic particles. The projectile has a rim surrounding a domed portion and a part that could be considered a wad 26. Note that although the projectile travels with element 30, the projectile still has a bore at the rear end, although it's partially filled with element 30.

Dravecky et al and Morin disclose non-lethal projectiles having a bore at the rear end.

Maurer et al, Stadler and Hobbs disclose non-metallic projectiles having hollow base portions.

Applicant is reminded to additionally considered these references when amending the claims.

Any inquiry concerning this communication should be directed to Michael Carone at telephone number 571-272-6873.



MICHAEL J. CANONE  
SUPERVISORY PATENT EXAMINER